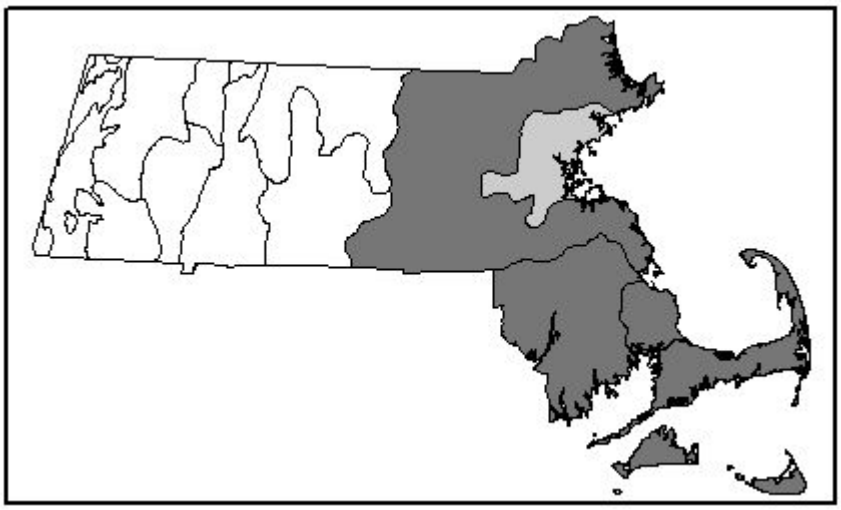
**Community Name:** **ESTUARINE INTERTIDAL: FRESHWATER TIDAL MARSH**

**Community CODE:** CE2B400000

**SRANK:** S1



**Concept:** Mixed herbaceous marsh flooded by daily tides, and occurring in the freshwater reach of coastal rivers.

**Environmental setting:** Freshwater tidal marshes occur along free-flowing coastal rivers. Tidal amplitude may range from 0 to 150 cm, and average annual salinity is less than 0.5 ppt. [from 0.5 ppt. to 5 pp. salinity, there is a gradient of species to the more clearly brackish, which has an average annual salinity of 5-18 ppt.]. This community occurs upstream of brackish tidal marsh, in the upper limits of tidal influence. The community may often be structurally diverse, including high marsh, low marsh, mud flats, rocky shore, ditches and seepages.

**Vegetation Description:** Dominant species include: blue joint (*Calamagrostis canadensis*), sedges (*Carex stricta*), narrow-leaved cattail (*Typha angustifolia*), wild rice (*Zizania aquatica*), smartweeds & tearthumbs (*Polygonum punctatum, P. arifolium*), jewelweed (*Impatiens capensis*), climbing hempweed (*Mikania scandens*) and sweet flag (*Acorus calamus*). Shrubs such as buttonbush (*Cephalanthus occidentalis*) and silky dogwood (*Cornus amomum*) may occasionally be present. Inundated False Pimpernel (*Lindernia dubia* var. *inundata*), which occurs in this community, is globally ranked by The Nature Conservancy but not listed in Massachusetts.

**Associations:** Caldwell & Crow (1992) describe eight cover types from a freshwater tidal area of the Merrimack River: (1) *Spartina alterniflora;* (2) *Sagittaria graminea;* (3) *Scirpus tabernaemontani;* (4) *Spartina pectinata;* (5) *Amaranthus cannabinus;* (6) *Scirpus pungens;* (7) *Acorus calamus;* (8) *Zizania aquatica*. That study area did not have a well developed high marsh area. Three of the TWINSPAN types were on rocky substrate, but within the freshwater tidal influence: (4) *Spartina pectinata;* (5) *Amaranthus cannabinus;* and (6) *Scirpus pungens.*

**Habitat Values for Associated Fauna:** This community provides outstanding general wildlife habitat, with abundant food sources for migratory and wintering waterfowl, and is generally associated with river reaches with spawning habitat for anadromous fisheries. It tends to have more vertebrate species than do the Brackish Tidal Marshes, such as freshwater snakes and muskrats.

**Associated rare plants:**

| | | |
|---|---|---|
| BIDENS HYPERBOREA VAR COLPOPHILA | ESTUARY BEGGAR-TICKS | E |
| CARDAMINE LONGII | LONG'S BITTER-CRESS | E |
| CONIOSELINUM CHINENSE | HEMLOCK PARSLEY | SC |
| CRASSULA AQUATICA | PYGMYWEED | T |

From: Swain, P.C. & J.B. Kearsley. 2001. Classification of the Natural Communities of Massachusetts. Version 1.3. Natural Heritage & Endangered Species Program, Division of Fisheries & Wildlife. Westborough, MA.

| | | |
|---|---|---|
| ERIOCAULON PARKERI | ESTUARY PIPEWORT | E |
| SAGITTARIA SUBULATA VAR SUBULATA | RIVER ARROWHEAD | E |
| SCIRPUS FLUVIATILIS | RIVER BULRUSH | SC |

**Associated rare animals:**

| | | |
|---|---|---|
| CINCINNATIA WINKLEYI | NEW ENGLAND SILTSNAIL | SC |
| LITTORIDINOPS TENUIPES | COASTAL MARSH SNAIL | SC |

**Examples with Public Access:** Best examples are along the North River , and the Merrimack River. Smaller examples on the South, Palmer, Mashpee, Agawam and Parker Rivers.

**Threats:** Invasive plants purple loosestrife (*Lythrum salicaria*) and yellow flag (*Iris pseudacorus*) are established in some systems, although long-term threat is unknown. Alteration of river hydrology from excessive water withdrawal may have significant effect on plant communities. Development associated with recreational activity (*docks, landings*) may threaten rare plants in tidal shore habitat. In the past dams were often placed in rivers below the upper reaches of the tidal influence and so reduced the areas with tidal influence.

**Management needs:** Monitor invasive plant populations. Determine hydrologic requirements, and develop system for monitoring hydrologic stress. Prevent alteration of tidal shores.

**Synonyms USNVC/TNC:** Includes: Eriocaulon parkeri Tidal Herbaceous Alliance -- Eriocaulon parkeri - Polygonum punctatum Herbaceous Vegetation [CEGL006352]; Nuphar lutea Tidal Herbaceous Alliance -- Nuphar lutea ssp. advena Tidal Herbaceous Vegetation [CEGL004472]; Peltandra virginica - Pontederia cordata Tidal Herbaceous Alliance -- Mixed Forbs (High Marsh) Tidal Herbaceous Vegetation [Provisional] [CEGL006325]; Zizania aquatica Tidal Herbaceous Alliance -- Zizania aquatica Tidal Herbaceous Vegetation [CEGL004202]; Amaranthus cannabinus Tidal Herbaceous Alliance -- Amaranthus cannabinus Herbaceous Vegetation [CEGL006080].

**MA (old name):** FW Tidal Marsh [formerly Southern New England FW Tidal]

**ME:** Freshwater Tidal Marsh

**NH:**

**NY:** Includes: part of Brackish intertidal mudflats; part of Freshwater Intertidal Mudflats; Freshwater tidal marsh; Freshwater intertidal shore; Freshwater Tidal Marsh; understory of Freshwater tidal swamp.

**CT:** Includes: Eriocaulon parkeri - Polygonum punctatum Community; Peltandra virginica - Cyperus strigosus; Pontederia cordata low forb vegetation; Eupatorium - Ludwigia palustris community; Hypericum mutilum - Gratiola aurea community; Zizania aquatica - Pontederia cordata community; Acorus calamus tall grasslands; Typha latifolia tall grasslands (semipermanently flooded); Peltandra virginica - Scirpus fluviatilis - Typha Community; Onoclea sensibilis - Scirpus fluviatilis - Typha spp. Community; Carex lacustris - Calamagrostis canadensis - Elymus canadensis community.

**RI:** Part of: Brackish intertidal mud flat [not in RI as such, no Eriocaulon parkeri]; Freshwater tidal marsh.

**Other:**

**Author:** B. Reid; P. Swain 1/25/2000 **Date:** 6/18/99